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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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General Motors Corporation  
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EXAMINER
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HOLLIDAY, JAIME MICHELE

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/801,309	ITALIA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jaime M. Holliday	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### ***Response to Arguments***

1. Applicant's arguments filed September 18, 2006 have been fully considered but they are not persuasive.

Applicants basically argue that Howe fails to teach "...assigning the MDN [mobile dialing number]...to the MCD [mobile communication device]..." In view of the previous argument, Examiner respectfully disagrees. Howe teaches a data unit (51) connected to a mobile terminal (MCD) (col. 4 lines 9-18). The VLR associates allocated TLDN with the data unit (51), and the MIN is passed with the response to a routing request. The serving switch connects call to data unit (col. 4 lines 62-67). The serving switch has a TLDN and the data unit has a TLDN whose structure is NPA-NXXX. The mobile terminal is associated with the MIN of the data unit ("...assigning the MDN [mobile dialing number]...to the MCD [mobile communication device]...").

Therefore, in view of the response, Examiner maintains previous rejections.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 16-20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 16-20 recite "a computer readable medium," however, the specification fails to disclose what a computer readable medium may consist of.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 11-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 11-15 use means plus function language. However, it is evident by claim 16 that the invention is a computer program, and the specification does not disclose the structure of each element that performs each function.

### ***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 and 16-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 16-20 recite a "computer readable medium storing a computer program," however, the specification fails to disclose what a computer readable medium is.

Claims 1-10 is directed toward a method of a computer program, as evidence by claim 16.

***Claim Rejections - 35 USC § 102***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. **Claims 1-5 and 7-20** are rejected under 35 U.S.C. 102(e) as being anticipated by **Howe (U.S. Patent # 6,615,381 B1)**.

Consider **claim 1**, Howe clearly shows and discloses a system for optimizing the routing of a call originated from a land-based terminal **43** to a wireless mobile terminal **47**, reading on the claimed "wireless mobile communication device," utilizing the interaction between a server controlled Internet protocol network and the home location register (HLR) **53** of the mobile terminal. In response to a call request by the server, the HLR identifies the visited location register (VLR) **57** in contact with the mobile terminal and obtains a temporary local directory number (TLDN) of the local serving switch in contact with a mobile data unit connected to the mobile terminal. The server uses the TLDN to reach a data unit on the network, which is used to place a local call over the public switched telephone network (PSTN) to the serving switch, reading on the claimed, "method for assigning a mobile dialing number (MDN) to a wireless

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mobile communication device (MCD) for providing local call access to the MCD from a base address for the MCD," (abstract), the method comprising:

searching the internal database of the HLR to determine the VLR last in contact with the mobile terminal, reading on the claimed "selecting a wireless rate center encompassing the base address and having an MDN providing local call access to the MCD from the base address for the MCD," (column 3 lines 37-39); and

sending a routing request from the HLR to the VLR, and the VLR determining that a call is deliverable and allocating a TLDN from a pool of numbers whose geographic base is the serving switch **63** in communication with the mobile terminal, reading on the claimed "assigning the MDN providing local calling access to the MCD from the base address for the MCD, in the selected wireless rate center encompassing the base address, to the MCD," (column 4 lines 28-33).

Consider **claim 2**, and **as applied to claim 1 above**, Howe further discloses the home mobile switch **19** passes the TLDN on to a second public switch telephone network/inter-exchange carrier switches (PSTN/IXC) **37** for delivery to the serving switch associated with the VLR where the mobile unit is located. The VLR associates the TLDN allocated with the mobile data unit and passes the information back to the serving switch, reading on the claimed "activating the assigned MDN," (column 3 lines 9-15).

Consider **claim 3**, and **as applied to claim 2 above**, Howe further discloses the TLDN is returned to the HLR in to response to the routing request, then is forwarded to the network server as a response to a location request for the mobile terminal, reading on the claimed "configuring the MCD for operation with the assigned MDN," (column 4 lines 32-35).

Consider **claim 4**, and **as applied to claim 1 above**, Howe further discloses the HLR searches its internal database for the VLR in contact with the mobile terminal, which then identifies the switch in communication with the mobile terminal that will connect the incoming call to the data unit associated with the mobile terminal, reading on the claimed "compiling a database defining geographic boundaries of a plurality of wireless rate centers", and selecting the wireless rate center of claim 1 from the database," (column 3 lines 37-39, column 4 lines 29-33, 65-67). The VLR, reading on the claimed "wireless rate center," stored in the database determines the serving switch which is the geographic location of the mobile terminal.

Consider **claim 5**, and **as applied to claim 4 above**, Howe further discloses that the network server chooses an appropriate data unit **70** from the pool that is local to the physical location of the mobile terminal, by using the NPA-NXX number format of the TLDN and comparing it with the phone number connection between the data unit and its connection to the PSTN/IXC, reading on the claimed "converting the base address to a geographic location and selecting the wireless rate center from those wireless rate centers in the database having

geographic boundaries encompassing the geographic location of the base address,” (column 4 lines 52-57).

Consider **claim 7**, and **as applied to claim 1 above**, Howe further discloses the HLR searches its internal database to determine the VLR last in contact with the mobile terminal, reading on the claimed “selecting the wireless rate center prior to contacting a wireless service provider,” (column 3 lines 37-39). The HLR contacts the VLR and asks for the identity of the serving switch last in contact with the mobile terminal, reading on the claimed “transmitting a designation of the selected wireless rate center to a wireless service provider for assignment of the MDN by the wireless service provider,” (column 3 lines 39-41). The HLR selects the VLR before contacting the VLR which functions as the current “service provider” of the mobile terminal.

Consider **claim 8**, and **as applied to claim 7 above**, Howe further discloses that the VLR allocates a TLDN from a pool of numbers whose geographic base is the serving switch in communication with the mobile terminal. The TLDN is returned to the HLR that forwards it to the network server, reading on the claimed “assigning the MDN and transmitting the assigned MDN to an entity other than the wireless service provider for configuring the MCD for operation with the assigned MDN,” (column 4 lines 30-35).

Consider **claim 9**, and **as applied to claim 7 above**, Howe further discloses that the serving switch sending a routing request to the VLR which the associates the TLDN with the data unit **51** connected to the mobile terminal and



passes its mobile identification number (MIN) in response to the routing request from the HLR, reading on the claimed "transmitting a serial number of the MCD to the wireless service provider together with the designation of the selected wireless rate center," (column 4 lines 62-65).

Consider **claim 10**, and **as applied to claim 9 above**, Howe further discloses that in order to identify the mobile terminal, the server associates the identity of the mobile terminal with the MIN of the mobile data unit it is connected to. To establish a data connection between the land-based terminal and the mobile terminal, the server sends a location request to the HLR associated with the data unit, reading on the claimed "assigning the MDN and transmitting the serial number, together with the assigned MDN, to an entity other than the wireless service provider for configuring the MCN for operation with the assigned MDN," (column 4 lines 12-15 and 19-23).

Consider **claim 11**, Howe clearly shows and discloses a system for optimizing the routing of a call originated from a land-based terminal to a wireless mobile terminal, reading on the claimed "wireless mobile communication device," utilizing the interaction between a server controlled Internet protocol network and the HLR of the mobile terminal. In response to a call request by the server, the HLR identifies the VLR in contact with the mobile terminal and obtains a TLDN of the local serving switch in contact with a mobile data unit connected to the mobile terminal. The server uses the TLDN to reach a data unit on the network, which is used to place a local call over the PSTN to the serving switch, reading on the

claimed, "apparatus for assigning a mobile dialing number (MDN) to a wireless mobile communication device (MCD) for providing local call access to the MCD from a base address for the MCD," (abstract), the apparatus comprising:

the HLR searching its the internal database to determine the VLR last in contact with the mobile terminal, reading on the claimed "means for selecting a wireless rate center encompassing the base address and having an MDN providing local call access to the MCD from the base address for the MCD," (column 3 lines 37-39); and

the HLR sending a routing request to the VLR, and the VLR determining that a call is deliverable and allocating a TLDN from a pool of numbers whose geographic base is the serving switch in communication with the mobile terminal, reading on the claimed "means for assigning the MDN providing local calling access to the MCD from the base address for the MCD, in the selected wireless rate center encompassing the base address, to the MCD," (column 4 lines 28-33).

Consider **claim 12**, and **as applied to claim 11 above**, Howe further discloses the HLR searches its internal database for the VLR in contact with the mobile terminal, which then identifies the switch in communication with the mobile terminal that will connect the incoming call to the data unit associated with the mobile terminal, reading on the claimed "database defining geographic boundaries of a plurality of wireless rate centers, and means for selecting the wireless rate center of claim 11 from the database," (column 3 lines 37-39,

column 4 lines 29-33, 65-67). The VLR, reading on the claimed "wireless rate center," stored in the database determines the serving switch which is the geographic location of the mobile terminal.

Consider **claim 13**, and **as applied to claim 12 above**, Howe further discloses that the network server chooses an appropriate data unit from the pool that is local to the physical location of the mobile terminal, by using the NPA-NXX number format of the TLDN and comparing it with the phone number connection between the data unit and its connection to the PSTN/IXC, reading on the claimed "means for converting the base address to a geographic location and selecting the wireless rate center from those wireless rate centers in the database having geographic boundaries encompassing the geographic location of the base address," (column 4 lines 52-57).

Consider **claim 14**, and **as applied to claim 11 above**, Howe further discloses the HLR searches its internal database to determine the VLR last in contact with the mobile terminal, reading on the claimed "means for selecting the wireless rate center prior to contacting a wireless service provider," (column 3 lines 37-39). The HLR contacts the VLR and asks for the identity of the serving switch last in contact with the mobile terminal, reading on the claimed "means for transmitting a designation of the selected wireless rate center to a wireless service provider for assignment of the MDN by the wireless service provider," (column 3 lines 39-41). The HLR selects the VLR before contacting the VLR which functions as the current "service provider" of the mobile terminal.

Consider **claim 15**, and **as applied to claim 11 above**, Howe further discloses that the VLR allocates a TLDN from a pool of numbers whose geographic base is the serving switch in communication with the mobile terminal. The TLDN is returned to the HLR that forwards it to the network server, reading on the claimed “means for assigning the MDN and transmitting the assigned MDN to an entity other than the wireless service provider for configuring the MCD for operation with the assigned MDN,” (column 4 lines 30-35).

Consider **claim 16**, Howe clearly shows and discloses a system for optimizing the routing of a call originated from a land-based terminal to a wireless mobile terminal, which may be a notebook computer, reading on the claimed “wireless mobile communication device,” utilizing the interaction between a server controlled Internet protocol network and the HLR of the mobile terminal. In response to a call request by the server, the HLR identifies the visited location register VLR in contact with the mobile terminal and obtains a TLDN of the local serving switch in contact with a mobile data unit, which may be a modem, connected to the mobile terminal. The server uses the TLDN to reach a data unit on the network, which is used to place a local call over the PSTN to the serving switch, reading on the claimed, “computer readable medium storing a computer program for assigning a mobile dialing number (MDN) to a wireless mobile communication device (MCD) for providing local call access to the MCD from a base address for the MCD,” (abstract, column 3 lines 27-28, column 4 lines 15-16), the computer program comprising:

searching the internal database of the HLR to determine the VLR last in contact with the mobile terminal, reading on the claimed "computer readable code for selecting a wireless rate center encompassing the base address and having an MDN providing local call access to the MCD from the base address for the MCD," (column 3 lines 37-39); and

sending a routing request from the HLR to the VLR, and the VLR determining that a call is deliverable and allocating a TLDN from a pool of numbers whose geographic base is the serving switch in communication with the mobile terminal, reading on the claimed "computer readable code for assigning the MDN providing local calling access to the MCD from the base address for the MCD, in the selected wireless rate center encompassing the base address, to the MCD," (column 4 lines 28-33).

Consider **claim 17**, and **as applied to claim 16 above**, Howe further discloses the HLR searches its internal database for the VLR in contact with the mobile terminal, which then identifies the switch in communication with the mobile terminal that will connect the incoming call to the data unit associated with the mobile terminal, reading on the claimed "computer readable code comprising a database defining geographic boundaries of a plurality of wireless rate centers, and computer readable code for selecting the wireless rate center of claim 16 from the database," (column 3 lines 37-39, column 4 lines 29-33, 65-67). The VLR, reading on the claimed "wireless rate center," stored in the database

determines the serving switch which is the geographic location of the mobile terminal.

Consider **claim 18**, and **as applied to claim 17 above**, Howe further discloses that the network server chooses an appropriate data unit from the pool that is local to the physical location of the mobile terminal, by using the NPA-NXX number format of the TLDN and comparing it with the phone number connection between the data unit and its connection to the PSTN/IXC, reading on the claimed "computer readable code for converting the base address to a geographic location and selecting the wireless rate center from those wireless rate centers in the database having geographic boundaries encompassing the geographic location of the base address," (column 4 lines 52-57).

Consider **claim 19**, and **as applied to claim 18 above**, Howe further discloses the HLR searches its internal database to determine the VLR last in contact with the mobile terminal, reading on the claimed "computer readable code for selecting the wireless rate center prior to contacting a wireless service provider," (column 3 lines 37-39). The HLR contacts the VLR and asks for the identity of the serving switch last in contact with the mobile terminal, reading on the claimed "computer readable code for transmitting a designation of the selected wireless rate center to a wireless service provider for assignment of the MDN by the wireless service provider," (column 3 lines 39-41). The HLR selects the VLR before contacting the VLR which functions as the current "service provider" of the mobile terminal.

Consider **claim 20**, and **as applied to claim 19 above**, Howe further discloses that the VLR allocates a TLDN from a pool of numbers whose geographic base is the serving switch in communication with the mobile terminal. The TLDN is returned to the HLR that forwards it to the network server, reading on the claimed "computer readable code for assigning the MDN and transmitting the assigned MDN to an entity other than the wireless service provider for configuring the MCD for operation with the assigned MDN," (column 4 lines 30-35):

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Howe (U.S. Patent # 6,615,381 B1)** in view of **Gallant et al. (U.S. Patent # 5,802,468)**.

Consider **claim 6**, and **as applied to claim 5**, Howe clearly shows and discloses the claimed invention except that the geographic locations of the data units, HLR, VLR or mobile terminal are not disclosed in terms of latitude and longitude.

In the same field of endeavor, Gallant et al. clearly show and disclose a method for providing different levels of mobile communication service within a communication system service area. A first level of service is provided to a mobile station when it is inside the home calling area, reading on the claimed "local call access." A plurality of base transceiver stations (BTSs), each having a cellular service area for communication with a mobile station, are coupled to a common database that has a memory for storing data related to a home geographical location associated with a mobile station, reading on the claimed "MCD," (abstract). A home calling area is a geographical region that can be described in units of distance around a subscriber's home geographical location, reading on the claimed "geographic location of a base address." A local calling area covers an area larger than a home calling area which could be a predetermined geographic area having city or county lines as boundaries, reading on the claimed "geographic boundaries of the wireless rate centers," (column 7 lines 14-25). Each BTS sends out a broadcast message that includes grid coordinate information such as identifier fields defining the geographical



location of the BTS, for example, the latitude and longitude location of the BTS, reading on the claimed "defining the geographic boundaries of the wireless rate centers, and the geographic location of the base address in terms of latitude and longitude," (column 10 lines 12-15).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the latitude and longitude coordinates as taught by Gallant et al. in the system of Howe, in order to locate the switches and VLRs to make a local call from a land-based terminal to a wireless mobile terminal.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaime M. Holliday whose telephone number is (571) 272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Jaime Holliday

Patent Examiner

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER